

WHAT IS CLAIMED IS:

1. A vehicle occupant protection apparatus comprising:

5 a seat supported on a vehicle body so as to be slidable in a direction in which an impact load is applied to the vehicle body as a result of a collision of the vehicle;

 a first actuator operable to apply an
10 acceleration to the seat relative to the vehicle body in a same direction as the impact load immediately after the vehicle collision, the first actuator including:

 a cylinder connected to the seat;
15 a piston movable within the cylinder and connected to the vehicle body; and

 a generator for generating a piston pushing force to push-out the piston from the cylinder during the vehicle collision; and

20 a second actuator disposed inside of the cylinder of the first actuator and operable to apply an acceleration to the seat in an opposite direction from the impact load.

25 2. The vehicle occupant protection apparatus

according to claim 1, wherein the second actuator comprises a cylindrical collapsible tube.

3. The vehicle occupant protection apparatus
5 according to claim 1, wherein the piston and the cylinder of the first actuator are actuated by combustion of a propellant.

4. The vehicle occupant protection apparatus
10 according to claim 1, further including:

a selective lock member provided between the piston and the cylinder, the selective lock member being adapted to be in an engaged state when the seat is moved to adjust its sliding position and
15 to be put in a released state in response to actuation of the first actuator.

5. The vehicle occupant protection apparatus
according to claim 4, further including:

20 a unidirectional piston movement restriction member provided between the piston and the cylinder, the unidirectional piston movement restriction member being adapted to allow free movement of the piston relative to a direction in which the piston
25 is pushed-out, and to prevent movement of the piston

in an opposite direction to that in which the piston is pushed-out.

6. The vehicle occupant protecting apparatus according to claim 1, further including a collision detector operable to detect the application of the impact load to the vehicle body and provide a communication to the first actuator.

10 7. The vehicle occupant protection apparatus according to claim 1, further including a seat slide lock device connected to the first actuator and operable to allow at least one occupant of the vehicle to adjust and fix the sliding position of
15 the seat.

8. The vehicle occupant-protecting apparatus according to claim 1, further including a seat belt operable to restrict movement of at least one
20 occupant of the vehicle.